

REMARKS

This Amendment and Response are made in reply to the Office Action dated June 12, 2008, in which the Examiner:

rejected claims 1, 3 and 5-7 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,727,307 to Gstöhl et al.;

rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,727,307 to Gstöhl et al.; and

rejected claim 2 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,727,307 to Gstöhl et al. in view of U.S. Patent No. 2,708,246 to Dunn.

Applicants respectfully address and/or traverse these objections and rejections below. The current amendment amends claims 1, 4 and 5, cancels claims 2, 6 and 7, and adds claims 8-11, leaving claims 1, 4-5 and 8-11 pending.

Regarding the rejection of claims 1, 3 and 5-7 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,727,307 to Gstöhl et al. (Gstöhl), amended claim 1 recites a shaft, used for an electric motor, to which a commutator to be fixed having a fit hole is fitted / fixed, comprising four strips of knurls formed on the outer circumferential surface of the shaft as to extend along an axial direction, wherein each strip of knurls is formed into an acute-angled triangle, and wherein the strips of knurls are evenly spaced circumferentially as measured from the vertexes of the acute-angled triangles of each knurl.

An anticipation rejection under 35 U.S.C. §102(b) is improper unless a single prior art reference shows or discloses each and every claim recitation.

Gstöhl does not show or disclose each and every recitation of amended claim 1. First, Gstöhl does not show or disclose a shaft comprising four strips of knurls, wherein each strip of knurls is formed into an acute-angled triangle. Gstöhl does not show or disclose any particular shape of the knurled portions 38 (Gstöhl, Figs. 13-14) and certainly does not show or disclose that each strip of knurls is formed into an acute-angled triangle. Second, Gstöhl does not show or disclose a shaft comprising four strips of knurls, wherein the strips of knurls are evenly spaced circumferentially about the shaft as measured from a vertex of the acute-angled triangles of each knurl. Instead, Gstöhl shows a shaft 1 having circumferential continuous bands of knurled portions 38 (Gstöhl, Figs. 13-14).

Since Gstöhl does not show or disclose each and every element of amended claim 1 of the present invention, Gstöhl does not anticipate claim 1.

Amended claim 5 of the present invention depends from amended claim 1 and includes additional recitations thereto. Therefore, Gstöhl does not anticipate amended claim 5 of the present invention for at least the reasons stated above in connection with amended claim 1. Additionally, amended claim 5 recites a shaft wherein an inner diameter of the fit hole is set larger than an outer diameter of the shaft and wherein the commutator to be fitted is fitted / fixed to the knurls. Gstöhl does not teach or suggest a shaft wherein the commutator to be fitted is fitted / fixed to the knurls. Instead, Gstöhl shows a gap between the shaft 1 and the commutator 15, 25, which is filled with plastic filling 19 (Gstöhl, Figs. 13-14) and/or occupied by a relatively short tube 39, which provides double insulation (Gstöhl, col. 6, ll. 15-21, Fig. 14). Since Gstöhl does not show or disclose each and every element of amended claim 5 of the present invention, Gstöhl does not anticipate claim 5.

Thus, the rejection of claims 1 and 5 under 35 U.S.C. § 102(b) should be withdrawn.

Regarding the rejection of amended claim 4 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,727,307 to Gstöhl et al., amended claim 4 depends from amended claim 1 and includes additional recitations thereto. As stated above, amended claim 1 recites a shaft, used for an electric motor, to which a commutator to be fitted having a fit hole is fitted / fixed, comprising four strips of knurls, wherein each strip of knurls is formed on an outer circumferential surface of the shaft as to extend along an axial direction, wherein each strip of knurls is formed into an acute-angled triangle, and wherein the strips of knurls are evenly spaced circumferentially about the shaft as measured from a vertex of the acute-angled triangles of each knurl.

A *prima facie* case of unpatentability under 35 U.S.C. § 103(a) is established when the teachings from the prior art itself appear to suggest the claimed subject matter to a person of ordinary skill in the art.

Gstöhl does not teach or suggest what amended claim 1 recites. First, Gstöhl does not teach or suggest a shaft having knurls wherein each strip of knurls is formed into an acute-angled triangle. Gstöhl does not disclose any

particular shape of the knurls (Gstöhl, Figs. 13-14) and certainly does not show or disclose that each strip of knurls is formed into an acute-angled triangle. Therefore, the shaft of Gstöhl does not teach or suggest knurls formed into an acute-angled triangle shape or that each strip is formed into an acute-angled triangle. Second, Gstöhl does not teach or suggest a shaft comprising four strips of knurls, wherein the strips of knurls are evenly spaced circumferentially about the shaft as measured from a vertex of the acute-angled triangles of each knurl. Instead, Gstöhl shows a shaft 1 having circumferential continuous bands of knurled portions 38 (Gstöhl, Figs. 13-14). If anything, Gstöhl teaches away from an evenly spaced arrangement by showing a continuous knurl arrangement. Therefore, since Gstöhl does not teach or suggest each and every element of amended claim 1 of the present invention, Gstöhl does not render claim 1 obvious.

In addition, Gstöhl does not teach or suggest what amended claim 4 recites. More specifically, Gstöhl does not teach or suggest a shaft having knurls wherein axial-directional lengthwise dimensions of the knurls are set longer than that of the commutator to be fitted. Instead, Gstöhl shows a shaft having circumferential bands of knurled portions 38 having axial-directional lengthwise dimensions that are shorter than the axial-directional lengthwise dimensions of the commutators 25 (Gstöhl, Figs. 13-14). Thus, Gstöhl does not teach or suggest the additional recitations of amended dependent claim 4.

Therefore, since Gstöhl neither teaches nor suggests each and every recitation of either Applicants' amended claim 1 or amended dependent claim 4, the rejection of amended dependent claim 4 under 35 U.S.C. § 103(a) should be withdrawn.

As to the rejections of claims 2, 3, 6 and 7, these claims have been canceled, rendering these rejections moot.

Having addressed and/or traversed each and every objection and rejection, Applicants respectfully requested that the objections and rejections be withdrawn, and claims 1, 4-5 and 8-11 be passed to issue.

Applicants respectfully submit that nothing in the current Amendment constitutes new matter. Support for the new claims can be found at least in Figure 5 and paragraphs [0045]-[0048].

Application No.: 10/546,622
Office Action dated: June 12, 2008
Response to Office Action dated: September 12, 2008

Applicants believe no fees are due in connection with this Amendment and Response. If any fees are deemed necessary, please charge them to Deposit Account No. 13-0235.

Respectfully submitted,

By /Marina F. Cunningham/
Marina F. Cunningham
Registration No. 38,419
Attorney for the Applicant(s)

McCORMICK, PAULDING & HUBER LLP
CityPlace II, 185 Asylum Street
Hartford, CT 06103-3402
Telephone: (860) 549-5290
Facsimile: (860) 527-0464